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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/864,373 | 05/25/2001 | William F. Krise | KRISE 1A | 1608 |

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Office of Counsel Code OC4
Naval Surface Warfare Center
Indian Head Division
101 Strauss Ave., Bldg. D-326
Indian Head, MD 20640-5035

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| EXAMINER |
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PADMANABHAN, KARTIC

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| ART UNIT | PAPER NUMBER |
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1641

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/864,373 | Applicant(s) KRISE ET AL. | |
| | Examiner Kartic Padmanabhan | Art Unit 1641 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12, 15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12, 15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 7-12, 15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Narayanan (US Pat. 6,593,148 B1). The reference discloses a DNA sequencing apparatus. To transmit light to the gel sandwich 150, the laser diode assembly 170 includes a housing 210 a focusing lens 212, a narrow band pass filter 214, a collimating lens 216 and a laser diode 218. The laser diode 218 emits far red, near infrared, or infrared light which is collimated by the laser-collimating lens 216 and filtered through the narrow band pass filter 214. This light is focused by the focusing lens 212 onto the gel sandwich 150. The detector includes a light sensor which is preferably an avalanche photodiode sensitive to the infrared light emission of the marker. The dye for use in the device of the reference may be a cyanine compound, which is inherently a laser dye (See for example Lee et al. (US Pat. 6,191,278) and Arai (US Pat. 6,249,085)). Further, the cyanine compounds of the reference carry a negative charge at some point along the length of the molecule (See claim 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narayanan et al. (US Pat. 6,593,148 B1) in view of Hammock et al. (US Pat. 6,395,562).

Narayanan et al. teach a DNA sequencing apparatus, as discussed above under 35 USC 102(e). However, the reference does not teach specific dyes.

Hammock et al. teaches a diagnostic microarray apparatus, wherein labels which provide optical signals are used. Preferred labels are light sensitive dyes at near IR wavelength, such as NN382, which is the compound listed in claim 20.

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It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use specific laser dyes such as NN382 as in Hammock et al. with the method of Narayanan et al. because one of ordinary skill in the art would have had a reasonable expectation of success in using any detectable dye with the method of the references. In addition, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In addition, the Narayanan reference teaches the use of cyanine compounds as the dye, which qualify as water-soluble laser dyes. See for example Lee et al. (US Pat. 6,191,278) and Arai (US Pat. 6,249,085).

Response to Amendment

7. The declaration filed on May 6, 2004 under 37 CFR 1.131 is sufficient to overcome the Giebeler reference (US Pat. 6,236,456 B1).
8. The declaration filed on May 6, 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the Narayanan reference (US Pat. 6,593,148 B1).
9. The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Narayanan reference. Specifically, applicant's evidence is sufficient to show a reduction to practice of the claimed invention between September 1998 and March 1999; however, the effective date of the Narayanan reference is March 1, 1994, as it claims priority to various US applications. In addition, the examiner maintains that the subject matter of the '148 patent used in support of the rejection under 35 USC 102(e) has support in the prior US applications, such

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that the priority date of the material used in the 102(e) rejection has an effective date prior to applicant's reduction to practice of the claimed invention (See US 6,086,737 and US 5,571,388).

Response to Arguments

10. Applicant's arguments filed 5/6/04 have been fully considered and are persuasive to overcome the rejections under 35 USC 112, and 35 USC 102 over Giebeler and Wang, but they are not persuasive to overcome the 102 rejection over Narayanan.

11. Applicant only argues that the Rule 1.131 declaration removes the Narayanan reference as prior art. Although applicant is correct in asserting that the declaration establishes reduction to practice of the claimed invention between September 1998 and March 1999, and the Narayanan reference was only filed on March 7, 2000, which is after applicant's reduction to practice, the reference claims priority to various US applications, such that the effective date of the reference still predates the reduction to practice of applicant's claimed invention. As such, the reference still qualifies as prior art under 35 USC 102(e).

Conclusion

Claims 7-12, 15, and 17-20 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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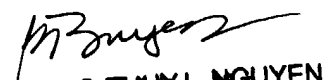
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kartic Padmanabhan whose telephone number is 571-272-0825. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kartic Padmanabhan
Patent Examiner
Art Unit 1641



BAO-THUY L. NGUYEN
PRIMARY EXAMINER
8/4/04